

What is claimed is:

1. A transmitter that transmits a signal to a receiver, comprising:
  - a first transmitting means that transmits a signal using a frame format that is
    - 5 formed by a first pilot signal in which an end portion of a known signal that has been matched in advance with the receiver is reproduced at a front of the signal, and by first transmitted binary data in which an end portion of the data is reproduced at a front of the data;
  - a second transmitting means that transmits a signal using a frame format formed
    - 10 by a second pilot signal formed by a known signal that has been matched in advance with the receiver, and by second transmitted binary data; and
  - a selection means that selects one of the first transmitting means and the second transmitting means when a signal is transmitted.
- 15 2. The transmitter according to claim 1, wherein further comprising a format information sharing means that shares information relating to the frame format of a signal with the receiver, and
  - wherein, based on the information relating to the frame format that is shared with the receiver, the selection means selects one of the first transmitting means and the
    - 20 second transmitting means.
3. The transmitter according to claim 1, wherein further comprising:
  - a quality information sharing means that shares quality information that relates to the quality of a signal with the receiver; and
  - 25 a multiplex number deciding means that decides from the quality information

shared with the receiver whether or not code division multiplexing is present for a transmitted signal and also decides a number of Walsh multiplex, and

wherein the selection means selects one of the first transmitting means and the second transmitting means using control information created in accordance with the decision as to whether or not code division multiplexing is present for a transmitted signal and also the number of Walsh multiplex.

4. The transmitter according to claim 3, wherein the transmitter is provided with a format information sharing means that shares, with the receiver, information concerning the frame format relating to the one of the first transmission means and the second transmission means that is selected.

5. The transmitter according to claim 1, wherein the first pilot signal is formed by constant amplitude zero auto-correlation (CAZAC) sequence signal.

15

6. The transmitter according to claim 3, wherein the quality information comprising:

a bit error rate of a received signal that is required in the receiver;

a delay profile of the received signal that is estimated in the receiver using the

20 first pilot signal, and

a carrier to interference power ratio of the received signal that is estimated in the receiver using the second pilot signal.

7. A receiver that receives a signal from the transmitter, comprising:

25 a first receiving means that receives the signal by operating a frequency domain

equalizer (FDE);

a second receiving means that performs Rake reception of the signal; and

a selection means that selects one of the first receiving means and the second receiving means.

5

8. The receiver according to claim 7, wherein further comprising:

a quality measuring means that measures the quality of a received signal;

a multiplex number deciding means that decides whether or not code division multiplexing is present for a transmitted signal and also decides a number of Walsh

10 multiplex from quality information relating to the quality of the signal; and

a format information sharing means that shares information relating to the frame format with the transmitter,

wherein the selection means selects one of the first receiving means and the second receiving means using control information created in accordance with the

15 decision as to whether or not code division multiplexing is present for a transmitted signal and also the number of Walsh multiplex, and

wherein the format information sharing means shares with the transmitter information concerning the frame format that relates to the one of the first transmission means and the second transmission means that is selected.

20

9. The receiver according to claim 7, wherein further comprising:

a quality measuring means that measures the quality of a received signal;

a quality information sharing means that shares quality information that relates to the quality of a signal with the transmitter; and

25 a format information sharing means that shares information relating to the frame

format with the transmitter, and

wherein the selection means selects one of the first receiving means and the second receiving means based on information relating to the frame format that is shared with the transmitter.

5

10. The receiver according to claim 7, wherein further comprising:

a quality measuring means that measures the quality of the received signal;

a multiplex number deciding means that decides whether or not code division multiplexing is present for a received signal and also decides a number of Walsh

10 multiplex from quality information relating to the quality of the signal; and

a quality information sharing means that shares quality information that relates to the quality of the signal with the transmitter, and

wherein the selection means selects one of the first receiving means and the second receiving means using control information created in accordance with the

15 decision as to whether or not code division multiplexing is present for a transmitted signal and also the number of Walsh multiplex.

11. The receiver according to claim 8, wherein the quality measuring means comprising a means that performs delay profile estimation of a received signal using the first pilot signal, and a unit that estimates a carrier to interference power ratio of the received signal using the second pilot signal, and

20 wherein the quality information includes a bit error rate of the received signal that is required during reception, a delay profile that is estimated in the receiver from the received signal, and a carrier to interference power ratio.

25